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PATENT APPLICATION

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IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Allen MIU et al.

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Application No.: 10/769,090

Examiner: Christopher M. Brandt

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Group Art Unit: 2617

Title: SYSTEMS AND METHODS FOR MULTI-ACCESS POINT TRANSMISSION OF DATA USING A PLURALITY OF ACCESS POINTS

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PO Box 1450
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TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on 11/02/2009.

☑ The fee for filing this Appeal Brief is $540.00 (37 CFR 41.20).

☐ No Additional Fee Required.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month $130	☐ 2nd Month $490	☐ 3rd Month $1110	☐ 4th Month $1730

☐ The extension fee has already been filed in this application.

☑ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of $540 . At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

Respectfully submitted,

Allen MIU et al.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	MIU et al.	Patent Application	
Application No.:	10/769,090	Group Art Unit:	2617
Filed:	January 30, 2004	Examiner:	Brandt, Christopher M.

For: SYSTEM AND METHOD FOR MULTI-ACCESS POINT TRANSMISSION OF DATA USING A PLURALITY OF ACCESS POINTS

APPEAL BRIEF

Table of Contents

I. Real Party in Interest

The assignee of the present invention is Hewlett-Packard Development Company, L.P.

II. Related Appeals and Interferences

There are no related appeals or interferences known to the Appellants.

III. Status of Claims

Claims 1, 3-14, 16-28, 30-36 and 38-40 remain pending. Claims 2, 15, 29 and 37 have been cancelled. This Appeal involves Claims 1, 3-14, 16-28, 30-36 and 38-40.

IV. Status of Amendments

No amendment subsequent to the Final Action has been filed in this case.

V. Summary of Claimed Subject Matter-

Independent Claim 1 recites "[a] method for delivering data, in a wireless system comprising a distributed infrastructure of access points." This embodiment is depicted at least in Figures 4C, 5 and 6. "Referring now to Figure 6, at 601 the present embodiment identifies a plurality of access points, (e.g., access point 305 and access point 307 of Figure 3) located in a distributed infrastructure of access points to be used cooperatively in combination with each other for the transmission of data to a receiver 309. In Figure 4A, data packets are designated with the reference characters d_1-d_x In the present embodiment, the cooperative usage of the plurality of access points is maintained for at least some portion of a data transmission period" (page 10, lines 18-25). "Referring again to Figure 6, at 603 the present embodiment enables the transmission of data from sender 301 to receiver 309 via the identified plurality of access points (e.g., 305 and 307) using a predetermined multi-access point transmission scheme. In the present embodiment, data is transmitted in a pattern that corresponds to the transmission scheme that is employed, where data transmission is constrained to at least two access points during at least some portion of a data transmission period" (page 11, lines 5-11). "Additionally, in another embodiment in accordance with the present invention, each data packet includes an associated timestamp that is examined to determine delay. The measurements are made at the physical layer by the system itself or by the application. In one such embodiment, the client examines a data packet's timestamp in order to determine the extent of its delay" (page 20, line 39, through page 21, line 3). "In the present embodiment, the multi-access point transmission scheme selected by multi-access point data transmission enabler 503 is based upon factors that include but are not limited to: (1) a predetermined pattern, (2) measurements from a variety of sources, and (3) the content of the data to be transmitted (discussed herein in more detail in the section related to

measurements)" (page 18, lines 7-12). "Figure 4C illustrates an exemplary response of the site selection multi-access point transmission scheme to changes in channel conditions according to one embodiment of the present invention. The difference between Figure 4B, and Figure 4C, is that in Figure 4C a change in channel condition (e.g., a receiver has moved, cross traffic has moved, or interference has changed) has caused the identification of a different preferred access point. For example, access point 305 was the preferred access point in the configuration depicted in Figure 4B, and due to some change in conditions, access point 307 becomes the preferred access point in the configuration depicted in Figure 4C. Figure 4C shows that the majority of the data packets that are transmitted from the sender 301 to the receiver 309 are transmitted through the newly preferred access point 307" (page 16, lines 4-14).

Independent Claim 10 recites "[a] method for delivering data utilizing a multi-access point transmission scheme." This embodiment is depicted at least in Figure 5, Figure 4A and Figure 4C. "Referring now to Figure 6, at 601 the present embodiment identifies a plurality of access points, (e.g., access point 305 and access point 307 of Figure 3) located in a distributed infrastructure of access points to be used cooperatively in combination with each other for the transmission of data to a receiver 309. In Figure 4A, data packets are designated with the reference characters d_1-d_x In the present embodiment, the cooperative usage of the plurality of access points is maintained for at least some portion of a data transmission period" (page 10, lines 18-25). "Additionally, in another embodiment in accordance with the present invention, each data packet includes an associated timestamp that is examined to determine delay. The measurements are made at the physical layer by the system itself or by the application. In one such embodiment, the client examines a data packet's timestamp in

order to determine the extent of its delay" (page 20, line 39, through page 21, line 3). "In the embodiment of Figure 4A, the multi-access point transmission scheme is a split-stream multi-access point transmission scheme. According to one embodiment, in the split-stream multi-access point transmission scheme, data to be transmitted from sender 301 to receiver 309 is allocated such that access points of the identified plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner. According to one embodiment, data stream portions can be substantially evenly distributed among access points 305 and 307" (page 14, lines 16-26). "Figure 4C illustrates an exemplary response of the site selection multi-access point transmission scheme to changes in channel conditions according to one embodiment of the present invention. The difference between Figure 4B, and Figure 4C, is that in Figure 4C a change in channel condition (e.g., a receiver has moved, cross traffic has moved, or interference has changed) has caused the identification of a different preferred access point. For example, access point 305 was the preferred access point in the configuration depicted in Figure 4B, and due to some change in conditions, access point 307 becomes the preferred access point in the configuration depicted in Figure 4C. Figure 4C shows that the majority of the data packets that are transmitted from the sender 301 to the receiver 309 are transmitted through the newly preferred access point 307" (page 16, lines 4-14).

Independent Claim 16 recites "[a] system for data delivery in a wireless system comprising a distributed infrastructure of access points." This embodiment is depicted in at least Figure 5. "Figure 5 shows data packet allocation system 500 according to one embodiment of the present invention. System 500 facilitates the identification of a plurality of access points to be used cooperatively in combination with each other in the transmission

of data from a sender to a receiver. Moreover, data packet allocation system 500 enables the transmission of the data to the receiver via the plurality of identified access points utilizing at least one multi-access point transmission scheme. System 500 of the present embodiment includes an access point identifier 501, a multi-access point data transmission enabler 503, a measurement sub-system 505, and a data packet relaying component 507. In accordance with one embodiment of the present invention access point identifier 501 identifies a plurality of access points (e.g., access point 305 and access point 307 in Figure 3) to be used cooperatively in combination with each other for the transmission of data from a sender to a receiver. After the plurality of access points (e.g., access point 305 and access point 307 of Figure 3) is identified, an indication of the access points that have been identified is communicated to the multi-access point data transmission enabler 503. Multi-access point data transmission enabler 503 is communicatively coupled to the access point identifier and enables the transmission of the data to the receiver via the plurality of access points (e.g., 305 and 307 in Figure 3) by utilizing at least one multi-access point transmission scheme. Multi-access point data transmission enabler 503 determines (for existing conditions) whether the use of a multi-access point transmission scheme is desirable. If the use of a multi-access point transmission scheme is determined to be desirable, multi-access point data transmission enabler 503 selects the transmission scheme to be employed in the transmission of the data packets from sender (e.g., sender 301 in Figure 3) to the receiver" (page 17, lines 12-40). "Additionally, in another embodiment in accordance with the present invention, each data packet includes an associated timestamp that is examined to determine delay. The measurements are made at the physical layer by the system itself or by the application. In one such embodiment, the client examines a data packet's timestamp in order to determine the extent of its delay" (page 20, line 39, through page 21, line 3). "In the present embodiment,

the multi-access point transmission scheme selected by multi-access point data transmission enabler 503 is based upon factors that include but are not limited to: (1) a predetermined pattern, (2) measurements from a variety of sources, and (3) the content of the data to be transmitted (discussed herein in more detail in the section related to measurements)" (page 18, lines 7-12).

Independent Claim 25 recites "[a] computer useable medium having computer useable code embodied therein for causing a computer to perform operations." This embodiment is depicted at least in Figures 4C and 6. "Referring now to Figure 6, at 601 the present embodiment identifies a plurality of access points, (e.g., access point 305 and access point 307 of Figure 3) located in a distributed infrastructure of access points to be used cooperatively in combination with each other for the transmission of data to a receiver 309. In Figure 4A, data packets are designated with the reference characters d_1-d_x In the present embodiment, the cooperative usage of the plurality of access points is maintained for at least some portion of a data transmission period" (page 10, lines 18-25). "Referring again to Figure 6, at 603 the present embodiment enables the transmission of data from sender 301 to receiver 309 via the identified plurality of access points (e.g., 305 and 307) using a predetermined multi-access point transmission scheme. In the present embodiment, data is transmitted in a pattern that corresponds to the transmission scheme that is employed, where data transmission is constrained to at least two access points during at least some portion of a data transmission period" (page 11, lines 5-11). "Additionally, in another embodiment in accordance with the present invention, each data packet includes an associated timestamp that is examined to determine delay. The measurements are made at the physical layer by the system itself or by the application. In one such embodiment, the client examines a data

packet's timestamp in order to determine the extent of its delay" (page 20, line 39, through page 21, line 3). "According to one 15 embodiment, in the split-stream multi-access point transmission scheme, data to be transmitted from sender 301 to receiver 309 is allocated such that access points of the identified plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner" (page 11, lines 14-18). "Figure 4C illustrates an exemplary response of the site selection multi-access point transmission scheme to changes in channel conditions according to one embodiment of the present invention. The difference between Figure 4B, and Figure 4C, is that in Figure 4C a change in channel condition (e.g., a receiver has moved, cross traffic has moved, or interference has changed) has caused the identification of a different preferred access point. For example, access point 305 was the preferred access point in the configuration depicted in Figure 4B, and due to some change in conditions, access point 307 becomes the preferred access point in the configuration depicted in Figure 4C. Figure 4C shows that the majority of the data packets that are transmitted from the sender 301 to the receiver 309 are transmitted through the newly preferred access point 307" (page 16, lines 4-14).

Independent Claim 33 recites "[a] method for delivering data, in a wireless system comprising a distributed infrastructure of access points." This embodiment is depicted at least in Figure 6 and Figure 4C. "Referring now to Figure 6, at 601 the present embodiment identifies a plurality of access points, (e.g., access point 305 and access point 307 of Figure 3) located in a distributed infrastructure of access points to be used cooperatively in combination with each other for the transmission of data to a receiver 309. In Figure 4A, data packets are designated with the reference characters d_1-d_x In the present embodiment, the

cooperative usage of the plurality of access points is maintained for at least some portion of a data transmission period" (page 10, lines 18-25). "Referring again to Figure 6, at 603 the present embodiment enables the transmission of data from sender 301 to receiver 309 via the identified plurality of access points (e.g., 305 and 307) using a predetermined multi-access point transmission scheme. In the present embodiment, data is transmitted in a pattern that corresponds to the transmission scheme that is employed, where data transmission is constrained to at least two access points during at least some portion of a data transmission period" (page 11, lines 5-11). "Additionally, in another embodiment in accordance with the present invention, each data packet includes an associated timestamp that is examined to determine delay. The measurements are made at the physical layer by the system itself or by the application. In one such embodiment, the client examines a data packet's timestamp in order to determine the extent of its delay" (page 20, line 39, through page 21, line 3). "According to one 15 embodiment, in the split-stream multi-access point transmission scheme, data to be transmitted from sender 301 to receiver 309 is allocated such that access points of the identified plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner" (page 11, lines 14-18). "Figure 4C illustrates an exemplary response of the site selection multi-access point transmission scheme to changes in channel conditions according to one embodiment of the present invention. The difference between Figure 4B, and Figure 4C, is that in Figure 4C a change in channel condition (e.g., a receiver has moved, cross traffic has moved, or interference has changed) has caused the identification of a different preferred access point. For example, access point 305 was the preferred access point in the configuration depicted in Figure 4B, and due to some change in conditions, access point 307 becomes the preferred access point in the configuration depicted in Figure 4C. Figure 4C shows that the majority of

the data packets that are transmitted from the sender 301 to the receiver 309 are transmitted through the newly preferred access point 307" (page 16, lines 4-14).

VI. Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1, 3, 6, 7, 9-12, 16-18, 20, 25, 26, 29, 30, 32-34, 38 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,594,245 by Rimhagen et al., hereinafter referred to as "Rimhagen," in view of U.S. Patent Application Publication No. 2003/0009576 by Apostolopoulos et al., hereinafter referred to as "Apostolopoulos," and further in view of U.S. Patent Application Publication No. 2003/0078045 by Norstrom et al. hereinafter referred to as "Norstrom."

2. Claims 4, 5, 8, 13, 14, 19, 21-24, 27, 28, 31, 35, 36 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rimhagen in view of Apostolopoulos, further in view of Norstrom, and further in view of U.S. Patent Application Publication No. 2002/0085498 by Nakamichi et al., hereinafter referred to as "Nakamichi."

VII. Argument

1. Whether Claims 1, 3, 6, 7, 9-12, 16-18, 20, 25, 26, 29, 30, 32-34, 38 and 40 are unpatentable under 35 U.S.C. §103(a) over Rimhagen in view of Apostolopoulos and in further view of Norstrom.

According to the Final Office Action mailed September 2, 2009, hereinafter referred to as the "instant Office Action," Claims 1, 3, 6, 7, 9-12, 16-18, 20, 25, 26, 29, 30, 32-34, 38 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rimhagen in view of Apostolopoulos and in further view of Norstrom. Appellants have reviewed Rimhagen, Apostolopoulos and Norstrom and respectfully submit that the claimed embodiments are patentable over Rimhagen in view of Apostolopoulos and in further view of Norstrom, for at least the following rationale.

i. The combination of Rimhagen, Apostolopoulos and Norstrom does not satisfy the requirements of a *prima facie* case of obviousness.

First, Appellants respectfully assert that the combination of Rimhagen, Apostolopoulos and Norstrom do not teach, describe or suggest the invention as claimed because the combination of the Rimhagen, Apostolopoulos and Norstrom does not satisfy the requirements of a *prima facie* case of obviousness.

"As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries" including "[a]scertaining the differences between the claimed invention and the prior art" (MPEP 2141(II)). "In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would

have been obvious, but whether the claimed invention as a whole would have been obvious" (emphasis in original; MPEP 2141.02(I)). Appellants note that "[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art" (emphasis added; MPEP 2141(III)). Appellants respectfully note that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

a. Claims 1, 3, 6, 7, 9, 16-18 and 20

Appellants respectfully direct the Examiner to independent Claim 1 which recites that an embodiment of the present invention is directed to (emphasis added):

> A method for delivering data, in a wireless system comprising a distributed infrastructure of access points, said method comprising:
>
> identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver, wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period;
>
> enabling the transmission of said data to said receiver via said plurality of access points, wherein said data is transmitted in a pattern that uses at least two access points during at least some portion of said data transmission period, wherein data packets of said data comprise timestamps and wherein said pattern is selected from a group of predetermined patterns; and
>
> determining, during the transmission, performance of at least one of said access points being used for the transmission to enable transmitting at least a portion of said data through a different access point while the transmission is in progress, wherein said performance is based at least on examination of said timestamps.

Independent Claim 16 recites a similar embodiment. Claims 3, 6, 7, and 9 depend from independent Claim 1 and Claims 17, 18 and 20 depend from Claim 16 also include these limitations.

Appellants respectfully submit that Rimhagen in view of Apostolopoulos further in view of Norstrom does not teach or suggest, "enabling the transmission of said data to said receiver via said plurality of access points, wherein said data is transmitted in a pattern that uses at least two access points during at least some portion of said data transmission period, wherein data packets of said data comprise timestamps and wherein said pattern is selected from a group of predetermined patterns" (emphasis added) as recited by Claim 1, with similar limitations in Claim 16.

Appellants understand Rimhagen to teach "The novel principles of multiple serving CSs (e.g., BSs, radio heads, etc.) in accordance with the present invention may include splitting information between the multiple serving CSs. With multiple serving coverage units, the information flow is split between or among the serving CSs" and "[p]roviding multiple serving coverage units may entail synchronizing the serving CSs as well as designing protocols that support more than one serving coverage unit" (emphasis added, Rimhagen, col. 4, lines 53-67). Accordingly, Appellants respectfully submit that Rimhagen does not teach, describe or suggest "wherein said data is transmitted in a pattern" and "wherein said pattern is selected from a group of predetermined patterns" as claimed.

Appellants note that the instant Office Action asserts that Rimhagen teaches that "the thresholds are predetermined and the pattern is the number of communication stations that

are transmitting data to the remote communication station" (instant Office Action, page 5, lines 2-4), thus rendering obvious the claimed embodiments. Appellants respectfully disagree with this assertion.

Appellants respectfully submit that it is a mischaracterization of Rimhagen to assert that a "predetermined pattern" as claimed is analogous to a number of communication stations and thresholds of available bandwidth and/or acceptable signal quality, as asserted in the instant Office Action. In contrast, Appellants submit that such teachings actually teach away from the claimed embodiments because the thresholds define values for variables, and thus are not predetermined. Moreover, the number of communication stations is also a variable, and thus not predetermined. In particular, Appellants respectfully submit that the combination of thresholds and a number of communication stations does not teach, describe or suggest "wherein said data is transmitted in a pattern" and "wherein said pattern is selected from a group of predetermined patterns" as claimed.

Moreover, Appellants submit that Apostolopoulos does not overcome the shortcomings of Rimhagen. Appellants understand Apostolopoulos to disclose a method of handing off streaming media sessions. (Apostolopoulos; Abstract). Appellants respectfully submit that Apostolopoulos does not teach, describe or suggest "wherein said data is transmitted in a pattern" and "wherein said pattern is selected from a group of predetermined patterns" as claimed, and is not relied upon as disclosing such subject matter.

Furthermore, Appellants submit that Norstrom does not overcome the shortcomings of Rimhagen. Appellants understand Norstrom to disclose a "[m]ethod and apparatus for

providing a substantially seamless hand over of a user receiving a data stream when the user moves from a first location served by a first server to a second location served by a second server. The data stream is provided at both the first and the second servers, and the data streams at the first and second servers are synchronized so that when the user moves from the first location to the second location, the user will start receiving the data stream at the second location at substantially a same point in the data stream at which the user stops receiving the data stream at the first location" (Norstrom; abstract). Appellants respectfully submit that Norstrom also does not teach, describe or suggest "wherein said data is transmitted in a pattern" and "wherein said pattern is selected from a group of predetermined patterns" as claimed, and is not relied upon as disclosing such subject matter.

Accordingly, Appellants respectfully submit that Rimhagen, Apostolopoulos and Norstrom do not teach, describe or suggest "enabling the transmission of said data to said receiver via said plurality of access points, wherein said data is transmitted in a pattern that uses at least two access points during at least some portion of said data transmission period, wherein data packets of said data comprise timestamps and wherein said pattern is selected from a group of predetermined patterns" as claimed (emphasis added). Therefore, Appellants respectfully submit that Claims 1, 3, 6, 7, 9, 16-18 and 20 are patentable over Rimhagen in view of Apostolopoulos further in view of Norstrom.

b. Claims 10-12, 25, 26, 29, 30, 32-34, 38 and 40

Appellants respectfully direct the Examiner to independent Claim 10 that recites that an embodiment of the present invention is directed to (emphasis added):

A method for delivering data utilizing a multi-access point transmission scheme, said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period, wherein data packets of said data comprise timestamps;

delivering a first portion of said data to said receiver via a first access point;

delivering a second portion of said data to said receiver via a second access point, wherein said first portion of said data and said second portion of said data are delivered to said receiver utilizing at least one predetermined multi-access point transmission scheme and wherein said first and said second access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner; and

determining, during the delivering of said first and second portions, performance of at least one of said access points being used for the delivering of said first and second portions to enable delivering at least a portion of said data through a different access point while the first and second portions are being delivered, wherein said performance is based at least on examination of said timestamps.

Independent Claims 25 and 33 recite similar embodiments. Claims 11 and 12 depend from independent Claim 10, Claims 26, 30, and 32 depend from independent Claim 25, and Claims 34, 38, and 40 depend from Claim 33. Therefore, Claims 11, 12, 26, 30, 32, 34, 38 and 40 recite the similar limitations.

Appellants respectfully submit that Rimhagen in view of Apostolopoulos further in view of Norstrom does not teach or suggest, "wherein said first and said second access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner" (emphasis added) as recited by Claim 10, with similar limitations in Claims 25 and 33.

As stated above, Appellants understand Rimhagen to teach "[t]he novel principles of multiple serving CSs (e.g., BSs, radio heads, etc.) in accordance with the present invention may include splitting information between the multiple serving CSs. With multiple serving coverage units, the information flow is split between or among the serving CSs" and "[p]roviding multiple serving coverage units may entail synchronizing the serving CSs as well as designing protocols that support more than one serving coverage unit" (emphasis added, Rimhagen, col. 4 lines 53-67). Accordingly, Appellants respectfully submit that Rimhagen does not teach, describe or suggest "wherein said first and said second access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner" (emphasis added) as claimed.

Appellants note that the instant Office Action asserts that Rimhagen teaches that "if the data is split, then different serving communication stations transmit different portions of data" (instant Office Action, page 3, lines 1-2), thus rendering obvious the claimed embodiments. Appellants respectfully disagree with this assertion. In particular, Appellants respectfully submit that Rimhagen is silent to "transmitting different portions of said data in an alternating manner" (emphasis added) as claimed. Appellants have reviewed Rimhagen and the instant Office Action and are unable to identify any teaching or disclosure related to the transmission of "different portions of said data in an alternating manner" (emphasis added) as claimed.

Moreover, Appellants submit that Apostolopoulos does not overcome the shortcomings of Rimhagen. Appellants understand Apostolopoulos to disclose a method of handing off streaming media sessions. (Apostolopoulos; Abstract). Appellants respectfully

submit that Apostolopoulos does not teach, describe or suggest "different portions of said data in an alternating manner" as claimed, and is not relied upon as disclosing such subject matter.

Furthermore, Appellants submit that Norstrom does not overcome the shortcomings of Rimhagen. Appellants understand Norstrom to disclose a "[m]ethod and apparatus for providing a substantially seamless hand over of a user receiving a data stream when the user moves from a first location served by a first server to a second location served by a second server. The data stream is provided at both the first and the second servers, and the data streams at the first and second servers are synchronized so that when the user moves from the first location to the second location, the user will start receiving the data stream at the second location at substantially a same point in the data stream at which the user stops receiving the data stream at the first location" (Norstrom; abstract). Appellants respectfully submit that Norstrom also does not teach, describe or suggest "different portions of said data in an alternating manner" as claimed, and is not relied upon as disclosing such subject matter.

Accordingly, Appellants respectfully submit that Rimhagen, Apostolopoulos and Norstrom do not teach, describe or suggest "wherein said first and said second access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner" as claimed (emphasis added). Therefore, Appellants respectfully submit that Claims 10-12, 25, 26, 29, 30, 32-34, 38 and 40 are patentable over Rimhagen in view of Apostolopoulos further in view of Norstrom.

ii. Rimhagen teaches away from the suggested modification and combination with Apostolopoulos.

Appellants respectfully submit that "[i]t is improper to combine references where the references teach away from their combination" (emphasis added; MPEP 2145(X)(D)(2); *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). Appellants respectfully note that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). Moreover, Appellants note that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious" (emphasis added) (MPEP 2143.01; *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

Appellants respectfully submit that there is no motivation to combine the teachings of Rimhagen, Apostolopoulos and Norstrom, because Rimhagen teaches away from the suggested modification with Apostolopoulos and that the suggested modification would change the principle of operation of Rimhagen. .

Appellants respectfully submit that Rimhagen states, "With multiple serving CSs (e.g., BSs, radio heads, etc.) in accordance with the present invention may include splitting information between the multiple serving CSs. The present invention should therefore not be confused with macro diversity (i.e., soft handoff) where identical information is sent to/from the user from/to several CSs." (Rimhagen, col. 4. lines 58-60). Appellants understand

Rimhagen to teach multiple communication stations that are not sending duplicate information in preparation for a hand-off, but instead several communication stations are used at the same time.

In contrast, Appellants understand Apostolopoulos to teach, "A method for performing a soft-handoff in a mobile streaming media, and a method for performing a hard-handoff in a mobile streaming media system are is disclosed." (Apostolopoulos, abstract). In particular, Appellants respectfully submit that by disclosing splitting of information to be sent from several CSs, that Rimhagen teaches away from the suggested modification to provide for handing office streaming media, as disclosed in Apostolopoulos.

Appellants respectfully submit that Rimhagen teaches away from the combination with Apostolopoulos because the suggested modification would require a substantial reconstruction and redesign of the elements shown in Rimhagen as well as a change in the basic principle under which Rimhagen was designed to operate.

Thus, in view of the combination of Rimhagen, Apostolopoulos and Norstrom not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully assert that Claims 1, 3, 6, 7, 9-12, 16-18, 20, 25, 26, 29, 30, 32-34, 38 and 40 are patentable.

2. Whether Claims 4, 5, 8, 13, 14, 19, 21-24, 27, 28, 31, 35, 36 and 39 are unpatentable under 35 U.S.C. §103(a) over Rimhagen in view of Apostolopoulos, in further view of Norstrom and in yet further view of Nakamichi.

According to the instant Office Action, Claims 4, 5, 8, 13, 14, 19, 21-24, 27, 28, 31, 35, 36 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rimhagen in

view of Apostolopoulos, in further view of Norstrom and in yet further view of Nakamichi. Appellants have reviewed Rimhagen, Apostolopoulos, Norstrom and Nakamichi and respectfully submit that the claimed embodiments are patentable over Rimhagen in view of Apostolopoulos, in further view of Norstrom and in yet further view of Nakamichi, for at least the following rationale.

Appellants respectfully submit that, as argued above, the combination of Rimhagen, Apostolopoulos and Norstrom as a whole fails to suggest the features of Appellants' Claims the combination of Rimhagen, Apostolopoulos and Norstrom does not satisfy the requirements of a *prima facie* case of obviousness and Rimhagen teaches away from the suggested modification and combination with Apostolopoulos

Moreover, Appellants respectfully submit that Nakamichi does not overcome the shortcomings of the combination of Rimhagen, Apostolopoulos and Norstrom. Appellants have reviewed Nakamichi and understand Nakamichi teaches, "[t]he invention provides a traffic information collection device and method." (Nakamichi, abstract). In particular, Appellants respectfully submit that Nakamichi does not teach, describe or suggest "wherein said data is transmitted in a pattern" and "wherein said pattern is selected from a group of predetermined patterns" as claimed, and is not relied upon as disclosing such subject matter. Moreover, Appellants respectfully submit that Nakamichi does not teach, describe or suggest "different portions of said data in an alternating manner" as claimed, and is not relied upon as disclosing such subject matter.

Thus, in view of the combination of Rimhagen, Apostolopoulos, Norstrom and Nakamichi not satisfying the requirements of a *prima facie* case of obviousness, Appellants respectfully assert that Claims 4, 5, 8, 13, 14, 19, 21-24, 27, 28, 31, 35, 36 and 39 are patentable.

CONCLUSION

Appellants believe that pending Claims 1, 3-14, 16-28, 30-36 and 38-40 are patentable over the asserted art as the rejection under 35 U.S.C. §103(a) does not satisfy the requirements of a *prima facie* case of obviousness.

Accordingly, Appellants respectfully submit that the rejection of Claims 1, 3-14, 16-28, 30-36 and 38-40 under 35 U.S.C. §103(a) is improper and should be reversed.

The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,
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Dated: January 4, 2010

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VIII. Appendix - Clean Copy of Claims on Appeal

1. A method for delivering data, in a wireless system comprising a distributed infrastructure of access points, said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver, wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period;

enabling the transmission of said data to said receiver via said plurality of access points, wherein said data is transmitted in a pattern that uses at least two access points during at least some portion of said data transmission period, wherein data packets of said data comprise timestamps and wherein said pattern is selected from a group of predetermined transmission patterns; and

determining, during the transmission, performance of at least one of said access points being used for the transmission to enable transmitting at least a portion of said data through a different access point while the transmission is in progress, wherein said performance is based at least on examination of said timestamps.

3. The method of Claim 1 wherein said pattern is a split-balanced transmission pattern.

4. The method of Claim 1 wherein said pattern is a site selection transmission pattern.

5. The method of Claim 1 wherein said pattern is a combination of a split-balanced transmission pattern and a site selection transmission pattern.

6. The method of Claim 1 wherein respective access points of said plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner.

7. The method of Claim 1 wherein respective access points of said plurality of access points operate cooperatively and in combination by facilitating the transmission of a majority

of said data over a first access point and the transmission of a remainder of said data over a second access point.

8. The method of Claim 7 wherein said remainder of said data is used to gather information related to said second access point.

9. The method of Claim 1 wherein said pattern is selected based upon information from the group consisting of various predetermined patterns, measurements from a variety of sources, and the content of said data to be transmitted.

10. A method for delivering data utilizing a multi-access point transmission scheme, said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period, wherein data packets of said data comprise timestamps;

delivering a first portion of said data to said receiver via a first access point;

delivering a second portion of said data to said receiver via a second access point, wherein said first portion of said data and said second portion of said data are delivered to said receiver utilizing at least one predetermined multi-access point transmission scheme and wherein said first and said second access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner; and

determining, during the delivering of said first and second portions, performance of at least one of said access points being used for the delivering of said first and second portions to enable delivering at least a portion of said data through a different access point while the first and second portions are being delivered, wherein said performance is based at least on examination of said timestamps.

11. The method of Claim 10 wherein said multi-access point transmission scheme comprises a split-balanced transmission scheme wherein data portions are evenly balanced across said plurality of access points.

12. The method of Claim 11 wherein said multi-access point transmission scheme comprises a site selection multi-access point transmission scheme wherein said first and said second access points operate cooperatively and in combination and wherein a transmission of a majority of said data is made over said first access point and the transmission of a remainder of said data is made over said second access point.

13. The method of Claim 12 wherein said remainder of said data is used to gather information related to said second access point.

14. The method of Claim 12 wherein said split-balanced multi-access point transmission scheme and said site selection multi-access point transmission scheme are used in conjunction.

16. A system for data delivery in a wireless system comprising a distributed infrastructure of access points, said system comprising:

an access point identifier that identifies a plurality of access points to be used cooperatively in combination with each other for the transmission of said data from a sender to a receiver wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period; and

a multi-access point data transmission enabler communicatively coupled to said access point identifier, said multi-access point data transmission enabler enabling the transmission of said data to said receiver via said plurality of access points by utilizing at least one multi-access point transmission scheme that uses at least two access points during at least some portion of said data transmission period, wherein data packets of said data comprise timestamps, and wherein said multi-access point data transmission enabler determines, during the transmission, performance of at least one of said access points being used for the transmission to enable transmitting at least a portion of said data through a different access point while the transmission is in progress, wherein said performance is based at least on examination of said timestamps and wherein said transmission scheme is selected from a group of predetermined patterns.

17. The system of Claim 16 further comprising:

a measurement subsystem coupled to said multi-access point data transmission enabler, said measurement sub-system providing measurements that are used by said multi-access point data transmission enabler to determine data packet allocations across said plurality of access points.

18. The system of Claim 17 further comprising:

a data packet relaying component coupled to said multi-access point data transmission enabler, said data packet relaying component for relaying data packets to said receiver that are transmitted to said data packet relaying component from said sender.

19. The system of Claim 18 wherein said access point identifier, said multi-access point data transmission enabler, said measurement sub-system, and said data packet relaying component are all resident at the same system node.

20. The system of Claim 18 wherein said access point identifier, said multi-access point data transmission enabler, said measurement sub-system, and said data packet relaying component are not all resident at the same system nodes.

21. The system of Claim 18 wherein said access point identifier and said multi-access point data transmission enabler are resident at said receiver.

22. The system of Claim 18 wherein said access point identifier and said multi-access point data transmission enabler are resident at said sender.

23. The system of Claim 18 wherein said access point identifier and said multi-access point data transmission enabler are resident at least one intermediate system node.

24. The system of Claim 18 wherein said access point identifier and said multi-access point data transmission enabler are located at least one of said plurality of access points.

25. A computer useable medium having computer useable code embodied therein for causing a computer to perform operations comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver, wherein said cooperative usage of said plurality of access points is maintained for at least some portion of a data transmission period;

enabling the transmission of said data to said receiver via said plurality of access points utilizing at least one predetermined multi-access point transmission scheme that uses at least two access points during at least some portion of said data transmission period, wherein packets of said data comprise timestamps and wherein respective access points of said plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner; and

determining, during the transmission, performance of at least one of said access points being used for the transmission to enable transmitting at least a portion of said data through a different access point while the transmission is in progress, wherein said performance is based at least on examination of said timestamps.

26. The computer useable medium of Claim 25 wherein said enabling said transmission of said data comprises utilizing at least one multi-access point transmission scheme that comprises a split-balanced multi-access point transmission scheme.

27. The computer useable medium of Claim 25 wherein said enabling said transmission of said data comprises utilizing at least one multi-access point transmission scheme that comprises a site selection multi-access point transmission scheme.

28. The computer useable medium of Claim 25 wherein said enabling said transmission of said data comprises utilizing a split-balanced transmission scheme and a site selection multi-access point transmission scheme that are used in conjunction.

30. The computer useable medium of Claim 25 wherein respective access points of said plurality of access points operate cooperatively and in combination by facilitating the transmission of a majority of said data over a first access point and the transmission of a remainder of said data over a second access point.

31. The computer useable medium of Claim 30 wherein said remainder of said data is used to gather information related to said second access point.

32. The computer useable medium of Claim 25 wherein the use of said multi-access point transmission scheme is based upon information that is selected from the group consisting of a predetermined pattern, measurements from a variety of sources, and the content of said data to be transmitted.

33. A method for delivering data, in a wireless system comprising a distributed infrastructure of access points, said method comprising:

identifying a plurality of access points to be used cooperatively in combination with each other for the transmission of said data to a receiver;

enabling the transmission of said data to said receiver via said plurality of access points utilizing at least one multi-access point transmission scheme, wherein data packets of said data comprise timestamps and wherein respective access points of said plurality of access points operate cooperatively and in combination by transmitting different portions of said data in an alternating manner; and

determining, during the transmission, performance of at least one of said access points being used for the transmission to enable transmitting at least a portion of said data through a different access point while the transmission is in progress, wherein said performance is based at least on examination of said timestamps.

34. The method of Claim 33 wherein said enabling said transmission of said data comprises utilizing at least one multi-access point transmission scheme that comprises a split-balanced transmission scheme.

35. The method of Claim 33 wherein said enabling said transmission of said data comprises utilizing at least one multi-access point transmission scheme that comprises a site selection multi-access point transmission scheme.

36. The method of Claim 33 wherein said enabling said transmission of said data comprises utilizing a split-balanced transmission scheme and a site selection multi-access point transmission scheme that are used in conjunction.

38. The method of Claim 33 wherein respective access points of said plurality of access points operate cooperatively and in combination by facilitating the transmission of a majority of said data over a first access point and the transmission of a remainder of said data over a second access point.

39. The method of Claim 38 wherein said remainder of said data is used to gather information related to said second access point.

40. The method of Claim 33 wherein said multi-access point transmission scheme is selected based upon information from the group consisting of a predetermined pattern, measurements from a variety of sources, and the content of said data to be transmitted.

IX. Evidence Appendix

No evidence is herein appended.

X. Related Proceedings Appendix

No related proceedings.